REMARKS

1. Introduction

In the Office Action mailed June 30, 2006, the Examiner rejected claims 1-6, 8-14, and 16-24 under 35 U.S.C. § 103(a) as being unpatentable over Spinar et al., U.S. Pub. No. 2002/0080816 ("Spinar") in view of Gilbert et al., U.S. Patent No. 6,016,311 ("Gilbert"). The Examiner rejected claims 7 and 15 under 35 U.S.C. § 103(a) as being unpatentable over Spinar in view of Gilbert, and further in view of Nee et al., U.S. Patent No. 6,876,857 ("Nee").

For the reasons set forth below, Applicants respectfully request reconsideration and allowance of the application.

2. Response to Rejections

a. Claims 1-8

Of these claims, claim 1 is independent. The Examiner has rejected claim 1 under § 103(a) as being unpatentable over Spinar in view of Gilbert. In response, Applicants submit that the rejection is improper and should be withdrawn because the Spinar/Gilbert combination fails to teach each and every element of claim 1.

The Examiner has now acknowledged that the CPE subscriber units in Spinar are not mobile stations. Instead, the Examiner has argued that Gilbert made it obvious to modify Spinar to make the subscriber units into mobile stations. Applicants submit, however, that even if the CPE subscriber units in Spinar were to be made into mobile stations in light of Gilbert, Spinar/Gilbert still fails to teach the elements of (i) "determining that a threshold number of mobile stations being provided communication services are concurrently operating in the given area" and (ii) "responsively changing the bandwidth allocation algorithm, so as to change how

the system dynamically allocates the radio frequency bandwidth among the mobile stations."
These two elements are discussed below.

1.   **Spinar/Gilbert does not teach "determining that a threshold number of mobile stations being provided communication services are concurrently in the given coverage area."**

Claim 1 recites, *inter alia*, "determining that a threshold number of mobile stations being provided communication services are concurrently operating in the given coverage area." The Examiner has failed to establish that Spinar/Gilbert teaches this element. The Examiner has alleged that this element is taught in Spinar, at paragraphs 18-19, paragraph 156, and paragraphs 164-167. However, as set forth below, none of these paragraphs teach determining that a *threshold number of subscriber units* are concurrently in a given coverage area.

Paragraphs 18-19 describe various parameters on which adaptation may be based, such as "the composite number of users and their activity levels" (paragraph 18, line 9). Thus, this section teaches that a *number* of users may be used as a parameter, but that still does not teach the use of a *threshold number* of users.

Paragraph 156 teaches a method in which "the time since last poll TSP is compares to threshold Q" (paragraph 156, lines 14-15). Thus, paragraph 156 teaches a threshold *time period*, not a threshold number of *subscriber units*.

Paragraphs 164-166 also teach threshold time periods, i.e., thresholds A, B, C, F, and S, that are compared to either the time since activity (TSA) or the time since poll (TSP). *See* paragraphs 164-166; Fig. 15. However, these threshold time periods do not correspond to a threshold number of subscriber units.

Paragraph 167 states that "[p]olling is thus adjusted for each user to achieve a minimum threshold of QoS." This QoS threshold also does not correspond to a threshold number of subscriber units.

Thus, Applicants submit that Spinar fails to teach "determining that a threshold number of mobile stations being provided communication services are concurrently operating in the given coverage area," even if the CPE subscriber units in Spinar were to be made into mobile stations in light of Gilbert. Applicants further submit that Gilbert fails to make up for this deficiency in Spinar.

<div align="center">2. Spinar/Gilbert does not teach "responsively changing the bandwidth allocation algorithm, so as to change how the system dynamically allocates the radio frequency bandwidth among the mobile stations."</div>

Claim 1 recites, *inter alia*, "responsively changing the bandwidth allocation algorithm, so as to change how the system dynamically allocates the radio frequency bandwidth among the mobile stations." The Examiner has alleged that this element is taught in Spinar at paragraph 161. However, what paragraph 161 actually states is that the base station may adjust the *polling policy*, not the bandwidth allocation algorithm. The "polling policy" in Spinar is the "method by which bandwidth requests will be obtained." *See* paragraph 161. In contrast, the "bandwidth allocation algorithm" in Spinar actually allocates bandwidth to a CPE that requests bandwidth. *See* paragraph 96. Thus, the "polling policy" and the "bandwidth allocation algorithm" are two different things, and only the former is the subject of paragraph 161.

The distinction between the "polling policy" and the "bandwidth allocation algorithm" is further emphasized by the fact that Figure 16 shows polling policy module 1610 and channel bandwidth allocation module 1670 as distinct elements. The polling policy module 1610 adaptively controls the technique by which bandwidth requests will be obtained from each user.

See paragraph 181. The channel bandwidth allocation module 1670 directs the disposition of each bandwidth slot. *See* paragraph 187. Moreover, obtaining bandwidth requests and granting bandwidth are ***distinct*** functions. *See* paragraph 187. Thus, the statement in paragraph 161 of Spinar that "[t]he base station may adjust the 'poling policy,'" does not teach the function of "responsively changing the bandwidth allocation algorithm" recited in claim 1 because Spinar explains that obtaining bandwidth requests (in accordance with the polling policy) and granting bandwidth (in accordance with the bandwidth allocation algorithm) are distinct functions.

In light of the foregoing, Applicants submit that Spinar does not teach "responsively changing the bandwidth allocation algorithm," as recited in claim 1. Applicants further submit that Gilbert does not make up for this deficiency in Spinar.

Accordingly, Applicants submit that claim 1 is allowable over Spinar and Gilbert for at least the foregoing reasons. Applicants further submit that claims 2-8 are allowable for at least the reason that they are dependent on an allowable claim.

b.   Claims 9-15

Of these claims, claim 9 is independent. The Examiner has rejected claim 9 under § 103(a) as being unpatentable over Spinar in view of Gilbert. In response, Applicants submit that the rejection is improper and should be withdrawn because the Spinar/Gilbert combination fails to teach each and every element of claim 9, as set forth below.

Claim 9 recites, *inter alia*, "determining that a threshold number of mobile stations being provided communication services are concurrently operating in the given coverage area." The Spinar/Gilbert combination fails to teach this element, for the reasons set forth above for claim 1.

Claim 9 also recites "responsively changing a bandwidth allocation algorithm." The Spinar/Gilbert combination also fails to teach this element, for the reasons set forth above for claim 1.

Claim 9 further recites "wherein the bandwidth allocation algorithm is used to allocate a forward supplemental channel among the mobile stations, and wherein the forward supplemental channel is used to send voice or data traffic from a base station to the mobile stations as part of providing the communication services." The Examiner has alleged that Spinar teaches such a "forward supplemental channel," citing to paragraphs 42-43, paragraph 161, and paragraphs 119-122. However, these sections make no reference whatsoever to a "forward supplemental channel."

Paragraph 42 describes different QoS requirements for different services provided by the CPEs, and paragraph 43 states that the base station MAC maps and allocates bandwidth for both the uplink and downlink communication links, wherein the distribution of bandwidth may be dependent on QoS. However, nothing in paragraphs 42-43 refers to any "forward supplemental channel."

Paragraphs 119-122 describe a method of downlink bandwidth allocation. More particularly, paragraph 121 states that the base station MAC maintains a set of queues for each physical channel (1202-1208) and that within each physical channel queue set (1202-1208) the base station may maintain a queue for each QoS of priority. However, paragraph 121 does not describe any of these physical channels as a "forward supplemental channel."

Paragraph 161 refers to the base station's "polling policy," which is the method by which bandwidth requests will be obtained. However, paragraph 161 makes no mention of any "forward supplemental channel."

Thus, Spinar does not make any mention of a "forward supplemental channel." If the Examiner believes otherwise, the Examiner is respectfully requested to show what specific disclosure in Spinar the Examiner believes corresponds to a "forward supplemental channel." Applicants note that Gilbert also makes no mention of a "forward supplemental channel."

Accordingly, Applicants submit that claim 9 is allowable over Spinar and Gilbert for at least the foregoing reasons. Applicants further submit that claims 10-15 are allowable for at least the reason that they are dependent on an allowable claim.

c. Claims 16-19

Of these claims, claim 16 is independent. The Examiner has rejected claim 16 under § 103(a) as being unpatentable over Spinar in view of Gilbert. In response, Applicants submit that the rejection is improper and should be withdrawn because the Spinar/Gilbert combination fails to teach each and every element of claim 16, as set forth below.

Claim 16 recites, *inter alia*, "determining that a number of mobile stations concurrently being provided services by the wireless network is below a predetermined threshold." However, the Spinar/Gilbert combination fails to teach this element because the combination fails to teach a threshold number of mobile stations, as described above for claim 1.

In addition, claim 16 recites "determining that an amount of voice or data traffic buffered at a base station for transmission to a mobile station as part of providing the communication services is above a predetermined threshold." The Examiner has alleged that Spinar teaches this element, citing to paragraphs 18-19 and paragraphs 156-167. However, as set forth below, these paragraphs do not refer to an amount of voice or data traffic buffered at a base station exceeding a predetermined threshold.

Paragraphs 18-19 describe various parameters upon which adaptation may be based. However, the amount of voice or data traffic buffered at a base station is not listed as a parameter.

Paragraphs 156-167 describe various thresholds that are illustrated in Figures 14 and 15. In particular, Figure 14 shows how thresholds A, B, and C are compared to the time since bandwidth request (TSR) and how thresholds Q and S are compared to the time since poll (TSP). Figure 15 shows how thresholds A, B, and C are compared to the time since activity (TSA) and how thresholds F and S are compared to the time since poll (TSP). Thus, the thresholds in paragraphs 156-167 relate to time periods, not to the amount of voice or data traffic buffered at a base station.

In light of the foregoing, Applicants submit that Spinar does not teach "determining that an amount of voice or data traffic buffered at a base station ... is above a predetermined threshold." If the Examiner believes otherwise, the Examiner is respectfully requested to show what specific disclosure in Spinar the Examiner believes corresponds to a threshold that is compared with an amount of voice or data traffic buffered at a base station. Applicants submit that Gilbert also fails to teach such a threshold.

Accordingly, Applicants submit that claim 16 is allowable over Spinar and Gilbert for at least the foregoing reasons. Applicants further submit that claims 17-19 are allowable for at least the reason that they are dependent on an allowable claim.

d.   Claims 20-24

Of these claims, claim 20 is independent. The Examiner has rejected claim 20 under § 103(a) as being unpatentable over Spinar in view of Gilbert. In response, Applicants submit that

the rejection is improper and should be withdrawn because the Spinar/Gilbert combination fails to teach each and every element of claim 20, as set forth below.

Claim 20 recites, inter alia, "program logic ... to determine that a threshold number of mobile stations are operating concurrently in the given coverage area and to responsively change the bandwidth allocation algorithm." As described above for claim 1, the Spinar/Gilbert combination does not teach either of these functions.

Accordingly, Applicants submit that claim 20 is allowable over Spinar and Gilbert for at least the foregoing reasons. Applicants further submit that claims 21-24 are allowable for at least the reason that they are dependent on an allowable claim.

3. Conclusion

Applicants submit that the present application is in condition for allowance, and notice to that effect is hereby requested. Should the Examiner feel that further dialog would advance the subject application to issuance, the Examiner is invited to telephone the undersigned at any time at (312) 913-0001.

Respectfully submitted,

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Dated: August 29, 2006   By: _Richard A. Machonkin_

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